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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/550,451	04/17/2000	Dan Davison	CRFY-110	1723

7590 10/07/2003

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EXAMINER

LIANG, GWEN

ART UNIT PAPER NUMBER

2172

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/550,451

Applicant(s)

DAVISON, DAN

Examiner

GWEN LIANG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10,21,23-27,31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10,21,23-27,31 and 32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

1. This action is responsive to communications: Amendment D, filed on 7/28/2003. Claims 1, 2, 4-10, 21, 23-27, 31, and 32 are pending. Claims 1, 21, 23 and 31 are independent claims.

#### ***Specification***

2. The disclosure is objected to because of the following informalities:

The word "childs" (page 6, line 8) contains typographic errors.

Appropriate correction is required to be made to the aforementioned and any other informalities existing in the disclosure.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The following claimed limitations in the claim are not sufficiently supported in the specification:

The claimed limitation "each entry including at least some of the plurality of objects" is in conflict of the description in the specification, page 2 lines 12-14, wherein a first database table have a plurality of entries, with each entry representing an object.

The claimed limitation "the creating includes populating the first table with the associated data regardless of whether the associated data is unique for multiple entries" is not sufficiently supported by the teaching in the specification.

### ***Response to Arguments***

5. Applicant's arguments regarding claims 1, 2, 4-10, 21, 23-27, 31, and 32 are moot based on the new grounds of rejection.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 4-10, 21, 23-27, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uppala (U.S. Patent No. 6,279,007), and further in view of Inoue et al., "Inoue" (U.S. Patent No. 6,336,123).

With respect to claim 1, Uppala discloses a method ...comprising:  
forming a first database table having a plurality of entries, each entry representing an object with an associated data to be accessed (See for example: col. 6 lines 46-49, "The invention uses three data structures, shown as database tables in

FIGS. 7A, 7B and 7C, to manage hierarchical values: node table 700, hierarchy value table 710 and hierarchy parent table 720.”; col. 6 lines 51-60, “For each unique node value, the invention uses a first hashing algorithm to generate a node hash value 705 that identifies a row 701 in the node table 700. The invention assigns a unique node identifier 703 to the node value and stores the node identifier 703, the node hash value 705, and the node value 707 in the row 701 identified by the node hash value 705. In the embodiment shown in FIG. 7A, the node identifiers 703 are stored as binary numbers but a decimal format is used for clarity in explanation.”; col. 10 lines 39-46, “The hierarchical values 717 for the parent and child in each pair are used to retrieve the corresponding hierarchical value identifiers 713 (block 948), referring again to the description of FIG. 9D, and a row 721 is stored in the hierarchy parent table 720 for each parent-child pair (block 953). The data warehouse manager 811 continues to expand hierarchical values into parent-child pairs until no unique parent child pairs remain to be processed.”, wherein the data stored in the table are accessed; and also see Fig. 11A); and

forming a second database table having a plurality of entries, each entry defining a relationship between at least some of said plurality of objects, wherein each entry is associated with at least one of the multiple hierarchies (See for example: FIG. 7B, wherein relationships such as 1001-1002 and 1001-1003 are defined.); and

designating a parent-child relationship between a first object and a second object in each entry (See for example: Fig. 7B, wherein parent-child relationship is defined).

However Uppala does not explicitly disclose a parent-child relationship, wherein the relationship is reversible, so that the first object can be denoted as a parent to the second object in a first entry, and the second object can be denoted as a parent to the first object in a second entry.

Inoue discloses a parent-child relationship, wherein the relationship is reversible, so that the first object can be denoted as a parent to the second object in a first entry, and the second object can be denoted as a parent to the first object in a second entry (See for example: col. 20 lines 8-10, wherein it is obvious that a parent-child relationship between two objects is reversible because the user can arbitrarily change a relationship between a parent node and a child node. Fig. 13, wherein a link from node id1 to node id2 and a link from node id2 to node id1 both exist to illustrate the reversible relationship).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporating a method providing reversible parent-child relationship as disclosed by Inoue into the method of crating parent-child relationship entries in a database table as disclosed in Uppala to provide a hyper-text document preparing apparatus in which relationships among a plurality of hyper-text documents are easily grasped by a hyper-text document preparing person and a hyper-text document reader and the link structure of hyper-text documents is easily handled (See for example: col. 3 lines 40-45). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Uppala discloses a method wherein each of said plurality of relationships is defined between a pair of said objects (See for example: FIG. 7B.).

Claim 4 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Uppala discloses a method wherein said plurality of relationships include single parent and multiple parent hierarchies (See for example: FIGs 6 and 7B.).

Claim 5 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Uppala discloses a method wherein said plurality of relationships include tree type structures (See for example: FIG. 6).

Claim 6 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Uppala discloses a method comprising forming a third database table, said third database table having a plurality of entries, each entry being a summary of said data from a plurality of entries from said first database table (See for example: FIG. 7C.).

Claim 7 is rejected for the reasons set forth hereinabove for claim 5 and furthermore Uppala discloses a method wherein each entry in said second database table defines a relationship between a pair of said objects (See for example: FIG. 7B.).

Claim 8 is rejected for the reasons set forth hereinabove for claim 7 and furthermore Uppala discloses a method wherein said relationship is between a parent and a child (See for example: FIGs. 6 and 7B.).

Claim 9 is rejected for the reasons set forth hereinabove for claim 8 and furthermore Uppala discloses a method wherein each entry in said second database

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table further defines a direct or indirect parent-child relationship (See for example: FIGs 6 and 7B)

Claim 10 is rejected for the reasons set forth hereinabove for claim 8 and furthermore Uppala discloses a method wherein each entry in said second database table further comprises a definition of a database structure to which said relationship is a part thereof (See for example: FIGs 7B, 7C, 11B and 11C.).

Claim 21 is rejected on grounds corresponding to the reasons given above for claim 1, and furthermore, Uppala discloses a method ...comprising:

forming a table of members available in the multiple simultaneous hierarchical database relationships and data to be accessed associated with each member (See for example: col. 6 lines 46-49; col. 10 lines 39-46); and

forming a table of reporting relationships among the members available in the multiple simultaneous hierarchical database relationships (See for example: FIG. 7B, wherein relationships such as 1001-1002 and 1001-1003 are defined.); and

forming a table having a set of hierarchies, each hierarchy corresponding to a reporting relationship in said table of reporting relationships (See for example: Fig. 10, Fig. 11A and Fig. 11B, wherein each hierarchy corresponds to a reporting relationship, such as Topics/Sports and Topics/Arts/Music; and also FIGs. 7C and 11C.).

With respect to claim 23, Uppala discloses a method ...comprising:

creating a first table having multiple entries, each entry including at least some of the plurality of objects and associated data to be accessed, wherein the first table associates each of the plurality of objects with an object identifier (See for example: Fig.



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7A, wherein each object is identified by a Node ID; col. 10 lines 39-46), and wherein the creating includes populating the first table with the associated data (See for example: Fig. 7A); and

creating a second table, wherein each parent-child relationship is represented by associating the object identifier of each parent object with the object identifier of each related child object and indicating that each parent-child relationship is associated with the first hierarchical relationship, so that multiple simultaneous hierarchies can be defined using the relational data structure without needing dedicated database relationships between objects in the multiple hierarchies (See for example: Fig. 7B, wherein the parent-child object relationship is identified in the column Hierarchical Value and is associated with a hierarchy identified by Hierarchical Value ID, wherein simultaneous hierarchies such as A/B/C and A/C can be defined using the relational data structure.).

However Uppala does not explicitly disclose populating the table with data regardless of whether the data is unique for multiple entries

Inoue discloses populating each node (equivalent to each table entry) with data regardless of whether the data is unique for multiple entries (See for example: Abstract, wherein it is obvious that the data associated with each node is populated regardless of whether it is unique among the multiple nodes because the contents of each node indicates a plurality of hyper-text documents).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a method of populating entries of a table with data regardless of its uniqueness as disclosed by Inoue into the method of populating a table

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with associated data as disclosed in Uppala to provide a hyper-text document preparing apparatus in which a degree of freedom for the expression of hyper-text documents is high (See for example: col. 3 lines 27-31). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claim 24 is rejected for the reasons set forth hereinabove for claim 23 and furthermore Uppala discloses a method wherein the second hierarchical relationship is defined by:

creating at least one different parent-child relationship than is present in the first hierarchical relationship; and indicating that the different parent-child relationship is linked to the second hierarchical structure (See for example: FIGs. 6 and 7B, 1001 (A)-1002 (B)-1003 (C)-1004 (D) and 1001 (A)-1002 (B)-1004 (D))

Claim 25 is rejected for the reasons set forth hereinabove for claim 24 and furthermore Uppala discloses a method comprising creating a third table, wherein the third table includes a summary of the first and second hierarchies (See for example: FIG. 7C.).

Claim 26 is rejected for the reasons set forth hereinabove for claim 24 and furthermore Uppala discloses a method comprising retrieving data associated with at least one of the plurality of objects in a single round trip (See for example: col. 12 line 59 – col. 13 line 19).

Claim 27 is rejected for the reasons set forth hereinabove for claim 23 and furthermore Uppala discloses a method comprising indicating whether each parent-child relationship is direct or indirect (See for example: FIGs 6 and 7B).

Claim 31 is rejected on grounds corresponding to the reasons given above for claim 23, and furthermore, Uppala discloses a relational data structure ... comprising:

a first table for:

organizing a plurality of objects into at least first and second entries, wherein each object is related to at least one other object by a defined relationship (See for example FIG. 7B, wherein relationships such as 1001-1002 and 1001-1003 are defined) ; and

storing an object identifier associated with each of the plurality of objects (See for example: FIG.7A, wherein Node ID is equivalent to an object identifier.); and

storing associated data to be accessed for each object identifier (See for example: Fig. 7A and 7B; col. 10 lines 39-46), and

a second table for:

associating the object identifier of each of the plurality of objects with the object identifier of each related object to represent each defined relationship (See for example: Fig. 7B, wherein the parent-child object relationship is identified in the column Hierarchical Value and is associated with a hierarchy identified by Hierarchical Value ID, wherein simultaneous hierarchies such as A/B/C and A/C can be defined using the relational data structure.); and

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storing a hierarchy identifier associated with each relationship for indicating that each relationship is associated with a particular one of the multiple hierarchies (See for example: FIG.7B, wherein a Hierarchical Value ID such as 10007 serves as a hierarchy identifier in identifying a particular relationship of 1001-1003.).

Claim 32 is rejected for the reasons set forth hereinabove for claim 31 and furthermore Uppala discloses a data structure comprising a third table for storing a summary of each of the multiple hierarchies (See for example: FIG. 7C.).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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### **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KIM VU can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

G.L.  
September 30, 2003

  
SHAHID ALAM  
PRIMARY EXAMINER